



Loving St. Tammany Parish's Natural Communities

What's growing in your backyard seasonally?

Hannah Cauley-March | April 14, 2024

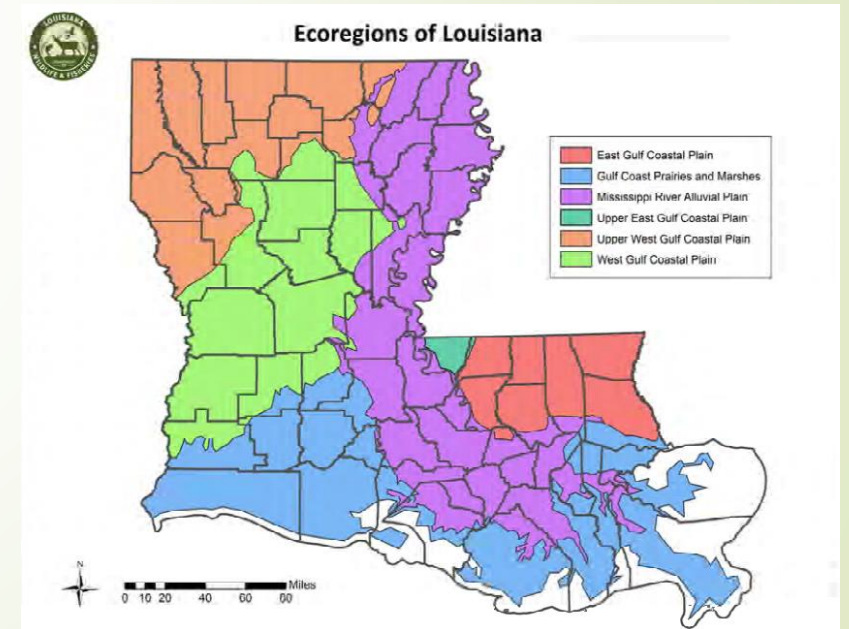
About Me

- ▶ Botanist for Louisiana Department of Wildlife and Fisheries & US Forest Service
- ▶ Bachelors in Natural Resource Ecology & Management: Wildlife Habitat Management & Conservation from LSU
- ▶ Course Assistant for Dendrology
- ▶ Worked at Shirley C. Tucker Herbarium
- ▶ President of The Botany Club @ LSU
- ▶ Member of Sigma Alpha



Ecoregions

- Ecoregion: Areas which share similar ecological attributes such as vegetation, soils, geology, climate, hydrology, and wildlife
- Six ecoregions in Louisiana
- Three ecoregions in St. Tammany Parish
 - East Gulf Coastal Plain
 - Gulf Coastal Prairies and Marshes
 - Mississippi River Alluvial Plain



Credit: LDWF, Wildlife Action Plan

Natural Community

- Ecoregions are made up of natural communities
- Natural Community: Groups of plants and animals interacting with each other and the environment
- 67 Natural Communities
 - 10 Marine and Estuarine
 - 29 Palustrine (Interior wetland)
 - 28 Terrestrial (Non-wetland)



Credit: Hannah Cauley-March

Wetland Indicator Status

- ▶ Obligate (**OBL**)
 - ▶ Almost always occur in wetlands
- ▶ Facultative Wet (**FACW**)
 - ▶ Usually occur in wetlands, but may occur in non-wetlands
- ▶ Facultative (**FAC**)
 - ▶ Occur in wetlands and non-wetlands
- ▶ Facultative Upland (**FACU**)
 - ▶ Usually occur in non-wetlands, but may occur in wetlands
- ▶ Upland (**UPL**)
 - ▶ Almost always occur in non-wetlands
- ▶ No Indicator (**NI**)
 - ▶ Does not occur in wetlands



Credit: Hannah Cauley-March

Eastern Gulf Coastal Plain

- ▶ Part of Highest Bio-Diversity and Endemism Area in North America
- ▶ Never glaciated
- ▶ Characterized by:
 - ▶ Subtle topography
 - ▶ Subtropical climate
 - ▶ High percentage of wetlands
 - ▶ Fire driven ecology
 - ▶ Numerous rivers and streams
 - ▶ Hurricane disturbances



Credit: LDWF, Wildlife Action Plan

Eastern Upland Longleaf Pine Woodland

- ▶ Found in hilly uplands of central and eastern Florida Parishes
- ▶ Soils
 - ▶ Acidic sandy loams, loamy sands, and acidic clays
- ▶ Generally dissected by small to large creek bottoms
- ▶ Fire interval of 2 to 3 years
- ▶ Longleaf Pine (*Pinus palustris*) is the dominant overstory
- ▶ Species rich understory



Credit: Hannah Cauley-March

Eastern Upland Longleaf Pine Woodland: Overstory



Photo Credit: Larry Allain

Blackjack Oak UPL
Quercus marilandica
Deciduous



Photo Credit: Larry Allain

Post Oak FACU
Quercus stellata
Deciduous



Photo credit: Hannah Cauley-March

Longleaf Pine FAC
Pinus palustris
Evergreen



Photo Credit: Erik Danielson

Mockernut Hickory NI
Carya tomentosa
Deciduous



Photo Credit: Larry Allain

Southern Red Oak FACU
Quercus falcata
Deciduous

Eastern Upland Longleaf Pine Woodland: Understory



Photo Credit: Larry Allain
Split-beard Bluestem FACU
Andropogon ternarius
August - November



Photo Credit: Jay Horn
Arrowfeather Threeawn FACW
Aristida purpurascens var. *virgate*
July - November



Photo Credit: Larry Allain
Roundhead Lespedeza FACU
Lespedeza capitata
June - October



Photo Credit: Larry Allain
Bracken Fern FACU
Pteridium aquilinum
Warm Season



Photo Credit: Gary P. Fleming
Goat's Rue NI
Tephrosia virginiana
April - October



Photo Credit: Larry Allain
Kansas Blazing-star FACU
Liatris pycnostachya
June - November



Photo Credit: Scott Ward
Wild Coco Orchid* NI
Pteroglossaspis ecristata
June - September



Photo Credit: Larry Allain
Slender Bluestem FACU
Schizachyrium tenerum
August - November

Eastern Longleaf Pine Flatwoods Savanna

- ▶ Poorly drained and seasonally saturated/flooded depression areas
 - ▶ Flooding in late fall/winter/early spring to growing season drought
- ▶ Soils
 - ▶ Hydric
 - ▶ Very strongly acidic
 - ▶ Nutrient poor
 - ▶ Fine sandy soils and silt loams that are low in organic matter
- ▶ Fire intervals of 1-4 years



Eastern Longleaf Pine Flatwoods Savanna



Photo credit: Jay Horn

Bristleleaf Chaffhead OBL
Carphephorus pseudoliatris
July - October



Photo credit: Scott Ward

Toothache Grass FACW
Ctenium aromaticum
June - August



Photo credit: Larry Allain

Switch Grass FAC
Panicum virgatum
June - October



Photo credit: Hannah Cauley-March

Longleaf Pine FAC
Pinus palustris
Evergreen



Photo credit: Bruce A. Sorrie

Savanna Meadow Beauty FACW
Rhexia alifanus
May - September



Photo credit: Larry Allain

Yellow Trumpet Pitcher Plant OBL
Sarracenia alata
March - April



Photo credit: Larry Allain

Little Bluestem FACU
Schizachyrium scoparium
June - December



Photo credit: Larry Allain

Bog Button OBL
Eriocaulon sp.
May - October

Slash Pine-Pondcypress/ Hardwood Woodland



- ▶ Situated in a hydrologic/topographic transition zone between Eastern Longleaf Pine Flatwoods Savanna and Bayhead Swamps
- ▶ Soils
 - ▶ Hydric
 - ▶ Strongly acidic
 - ▶ Nutrient poor silt loams and fine sandy loams
- ▶ Two principal soils are Myatt fine sandy loam and Guyton silt loam
- ▶ Surface soils typically saturated for most of the year
- ▶ Shallow water may be present in the late fall, winter, and early spring, and after rains during the growing season
- ▶ Fire interval between 5 and 20 years

Slash Pine-Pondcypress/Hardwood Woodland



Photo Credit: Grant Morrow Perkins

White Tili FACW
Cyrilla racemiflora
Deciduous; May - July



Photo Credit: Larry Allain

Big Gallberry FACW
Ilex coriacea
March - October



Photo Credit: Paul Marcum

Myrtle Holly* FACW
Ilex myrtifolia
May - June; October - November



Photo Credit: Aidan Campos

Slash Pine FACW
Pinus elliotii
Evergreen



Photo Credit: Larry Allain

Sweetbay Magnolia FACW
Magnolia virginiana
Deciduous; April - October



Photo Credit: Larry Allain

Foxtail Clubmoss OBL
Lycopodiella alopecuroides
July - September



Photo Credit: Jacob Dakar

Pond Cypress OBL
Taxodium ascendens
Deciduous



Photo Credit: LDWF

Fringed Yellow-eyed-grass OBL
Xyris fimbriata
September - October

Bayhead Swamp

- Acidic, often seepage-influenced, embedded in pine woodlands and savannas
- Soils often saturated and spongy
- Landscape position can vary from broad depressions or small stream bottoms in flatwoods to narrow stream valleys in hilly terrain
- Typically flanked by fire-dependent pine systems with fire creeping in during dry periods



Bayhead Swamp



Photo Credit: Grant Morrow Parkins

White Titi FACW
Cyrilla racemiflora
Deciduous; May - July



Photo Credit: Richard & Teresa Ware

Royal Fern OBL
Osmunda regalis
March - June



Photo Credit: Hannah Cauley-March

Fetterbush FACW
Lyonia lucida
March - October



Photo Credit: Larry Allain

Swamp Blackgum OBL
Nyssa biflora
Deciduous



Photo Credit: Larry Allain

Sweetbay Magnolia FACW
Magnolia virginiana
Deciduous; April - October



Photo Credit: LDWF

Cinnamon Fern FACW
Osmunda cinnamomea
March - May



Photo Credit: Gary P. Fleming

Red Bay FACW
Persea palustris
Deciduous; May - June



Photo Credit: Kelby Ouchley

Possumhaw FACW
Viburnum nudum
Deciduous; April - October

Eastern Hillside Seepage Bog



Credit: LDWF

- Occur on the Pleistocene high terraces in Washington and St. Tammany Parishes
- Commonly arise on mid- to low slopes on saturated, strongly acidic (pH ~4.5-5.5) and nutrient poor substrates
- Soils fine sandy loams or loamy fine sand with relatively high organic matter content
 - Underlain by an impervious clay layer
 - Causes groundwater to constantly seep to the soil surface
- Persistently wet from seepage
- Fire driven systems that evolved with frequent growing-season fires between 1 to 3 years
- Extremely sensitive to surrounding land management activities that alter natural hydrologic regimes

Eastern Hillside Seepage Bog



Photo Credit: Bruce Somie

Mohr's Bluestem* FACW
Andropogon mohrii
September - November



Photo Credit: Richard & Teresa Ware

Pineland Rayless Goldenrod FACW
Bigelovia nudata
August - October



Photo credit: Scott Ward

Toothache Grass FACW
Ctenium aromaticum
May - August



Photo Credit: arenicola

Pineland Bog Button* FACW
Lachnocaulon digynum
June - September



Photo credit: Larry Allain

Yellow Trumpet Pitcher Plant OBL
Sarracenia alata
March - April



Photo Credit: Hannah Cauley-March

Parrot Pitcher Plant* OBL
Sarracenia psittacina
Late March - May



Photo Credit: Keith Bradley

Coastal Plain False Asphodel OBL
Tofieldia racemosa
June - Early August; Late
September - October



Photo Credit: Keith Bradley

Coastal Plain Yellow-eyed-grass OBL
Xyris ambigua
May - August

Pine Flatwoods

- Occur on flat, low-relief areas with a high water table
- Soils
 - Mesic
 - Strongly acidic
 - Fine sandy or silty loams with presence of a clay hardpan
- Fire interval of 5 to 10 years
- Found in a mosaic with other flatwoods, savannahs, and bayhead swamps
- Longleaf pine (*Pinus palustris*) and slash pine (*Pinus elliottii*) are often co-dominants in the Florida Parishes



Pine Flatwoods



Photo credit: Hannah Cauley-March
Longleaf Pine FAC
Pinus palustris
Evergreen



Photo Credit: Aidan Campos
Slash Pine FACW
Pinus elliotii
Evergreen



Photo Credit: Larry Allain
Laurel Oak FACW
Quercus laurifolia
Deciduous



Photo Credit: Larry Allain
Summer Sweet FACW
Clethra alnifolia
July - August



Photo Credit: Larry Allain
Littleleaf Gallberry FACW
Ilex glabra
February - November



Photo Credit: Hannah Cauley-March
Sunbonnet FACW
Chaptalia tomentosa
March - May



Photo Credit: Gary P. Fleming
Blueberries FACW
Vaccinium spp.
February - July



Photo Credit: Bruce A. Sorrie
Blackberries FAC
Rubus spp.
February - June

Mixed Hardwood-Loblolly Pine/Hardwood Slope Forest



- Found statewide
 - Broad ridgetops and gentle side slopes in terrace uplands
 - Middle and lower slopes between uplands and stream bottoms
 - Heads of drainages along small, intermittent streams
- Soils acidic sandy loam, silt loam, and silty clay
- Hydrology ranges from mesic-wet to dry-mesic
- Loblolly pine (*Pinus taeda*) comprises 20% or more of the overstory
- Fire interval of 5-10 years

Mixed Hardwood-Loblolly Pine/Hardwood Slope Forest



Photo Credit: Larry Allain

Christmas Fern FAC
Polystichum acrostichoides
March - October



Photo Credit: Larry Allain

Woods oats FACW
Chasmantium laxum ssp. *laxum*
June - November



Photo Credit: Larry Allain

Blackgum FAC
Nyssa sylvatica
Deciduous



Photo Credit: Larry Allain

American Holly FAC
Ilex opaca
Evergreen; April - October



Photo Credit: Larry Allain

Loblolly Pine FAC
Pinus taeda
Evergreen



Photo Credit: Larry Allain

White Oak FACU
Quercus alba
Evergreen



Photo Credit: Gary P. Fleming

Elliott's Blueberry FACW
Vaccinium elliotii
February - July



Photo Credit: Larry Allain

American Beech FACU
Fagus grandifolia
March - May; September - October

Bottomland Hardwood Forest

- Maintained by a natural hydrological regime of alternating wet and dry periods generally following flooding events
- Important natural community
 - Water quality maintenance
 - Productive habitat for fish and wildlife
 - Flooding and stream recharge regulation
- Mixture of broadleaf deciduous, needleleaf deciduous, and evergreen trees and shrubs
- Three associations based on environmental factors



Bottomland Hardwood Forest: Overcup Oak-Water Hickory

- Occurs on low-lying poorly drained flats, sloughs in backwater basins, and on low ridges with clay soils that are subject to inundation
- Inundated or saturated soils generally present for major portion of growing season



Water Hickory OBL
Carya aquatica
Deciduous; March - October



Swamp Privet OBL
Forestiera acuminata
Deciduous; March - May



Overcup Oak OBL
Quercus lyrata
Deciduous



Waterlocust OBL
Gleditsia aquatica
Deciduous; April - November

Bottomland Hardwood Forest: Hackberry-American Elm-Green Ash

- ▶ Occurs in floodplains of major rivers on low ridges, flats and sloughs in first bottoms (portions of floodplains nearest to rivers, immediately behind natural levees)
- ▶ Soils seasonally inundated or saturated periodically for 1 to 2 months during the growing season



Photo Credit: Aidan Campos

Sugarberry (Hackberry) FACW
Celtis laevigata
Deciduous; February - May



Photo Credit: Larry Allain

Green Ash FACW
Fraxinus pennsylvanica
Deciduous; February - June



Photo Credit: Larry Allain

Honeylocust FAC
Gleditsia triacanthos
Deciduous; May - June



Photo Credit: Larry Allain

American Elm FACW
Ulmus americana
Deciduous; February - May

Bottomland Hardwood Forest: Sweetgum-Water Oak

- Occurs on low ridges
- Driest association



Cherokee Caric Sedge FACW
Carex cherokeensis
May – June



Green Hawthorn FACW
Crataegus viridis
Deciduous; March - May



Deciduous Holly FACW
Ilex decidua
Deciduous; March - May



Southern Shield Fern FACW
Thelypteris kunthii
Deciduous; May - August

Small Stream Forest

- ▶ Occurs along rivers and streams in central, western, southeastern, and northern Louisiana
- ▶ Seasonally flooded for brief periods
- ▶ Soils typically classified as silt loams
 - ▶ Percentage of sand, silt, acidic clay, calcareous clay, and organic matter variable
- ▶ Benefits
 - ▶ Filters surface and subsurface flows
 - ▶ Improves water quality
 - ▶ Stores sediment and nutrients



Credif: LDWF, Wildlife Action Plan

Small Stream Forest



Photo Credit: Lillybyrd

Spruce Pine FACW
Pinus glabra
Evergreen



Photo Credit: Bruce Sorrie

Slender Caric Sedge FACW
Carex debilis
April - May



Photo Credit: Sonnie Hill

Silverbell FAC
Halesia diptera
Deciduous; March - September



Photo Credit: Larry Allain

Southern Magnolia FAC
Magnolia grandiflora
Evergreen; April - August



Photo Credit: Larry Allain

Laurel Oak FACW
Quercus laurifolia
Deciduous



Photo Credit: Larry Allain

Cow Oak FACW
Quercus michauxii
Deciduous



Photo Credit: Joey Shaw

Cherrybark Oak FAC
Quercus pagoda
Deciduous



Photo Credit: Larry Allain

American Beech FACU
Fagus grandifolia
March - May; September - October

Pondcypress-Blackgum Swamp

- Occupy backwater portions of larger swamplands, in places well removed from active stream channels
- Can also occupy isolated depressions in flatwoods embedded within a matrix of Eastern Longleaf Pine Flatwoods Savanna
- Soils acidic and nutrient poor
- Floristic diversity higher than Cypress-Tupelo-Blackgum swamps
- Threatened by introduction of excessive nutrients



Credit: LDWF

Pondcypress-Blackgum Swamp



Photo Credit: Jeff McMillan
Virginia-willow FACW
Itea virginica
April - June



Photo Credit: chasemathey
Drummond Red Maple FAC
Acer rubrum var. *drummondii*
Deciduous; February - April



Photo Credit: LDWF
Fringed Yellow-eyed-grass OBL
Xyris fimbriata
September - October



Photo Credit: Barry Allain
Lizard's Tail OBL
Saururus cernuus
May - August



Photo Credit: Gary P. Fleming
Carolina Ash OBL
Fraxinus caroliniana
Deciduous; May; July - October



Photo Credit: Allan Cressler
Purple Bladderwort* OBL
Utricularia purpurea
May - September



Photo Credit: Sonnia Hill
Marsh St. John's Wort OBL
Triadenum walteri
August - October



Photo Credit: LDWF
Cypress-knee Sedge* OBL
Carex decomposita
March - June

Cypress-Tupelo-Blackgum Swamp



- Occur on intermittently exposed soils, most commonly along rivers and streams but also in backswamp depressions and swales
- Soils inundated or saturated by surface water or ground water on nearly permanent basis throughout growing season
- Occur on mucks and clays, but also on silts and sands with underlying clay layers
- Relatively low floristic diversity
- Draw-down periods necessary for Baldcypress and Tupelo seedling recruitment

Cypress-Tupelo-Blackgum Swamp



Photo Credit: Jeff McMillan

Virginia-willow FACW
Itea virginica
April - June



Photo Credit: chosemathey

Drummond Red Maple FAC
Acer rubrum var. *drummondii*
Deciduous; February - April



Photo Credit: Gary P. Fleming

Tupelogram OBL
Nyssa aquatic
Deciduous; March - May



Photo Credit: Larry Allain

Lizard's Tail OBL
Saururus cernuus
May - August



Photo Credit: Gary P. Fleming

Carolina Ash OBL
Fraxinus caroliniana
Deciduous; May; July - October



Photo Credit: Larry Allain

Swamp Blackgum OBL
Nyssa biflora
Deciduous; April - June; August - October



Photo Credit: Hannah Cauley-March

Buttonbush OBL
Cephalanthus occidentalis
Deciduous; June - September

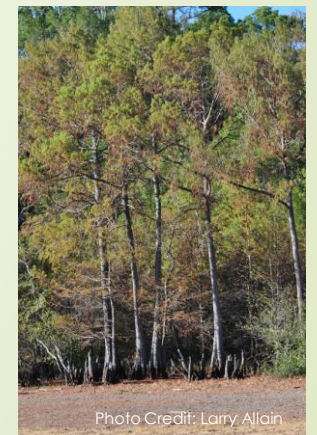


Photo Credit: Larry Allain

Baldcypress OBL
Taxodium distichum
Deciduous

Coastal Live Oak-Hackberry Forest



- ▶ Occur on abandoned beach ridges of southwest Louisiana and adjacent Texas; occur on the Deltaic Plain as well, but are rare
- ▶ Ridges stranded via deltaic sedimentation by the Mississippi River
- ▶ Soil
 - ▶ Fine sandy loams with sand and shell layers or deposits
- ▶ Important storm barriers
- ▶ Provides important wildlife habitat and serves as a resting and foraging point for migrating birds
- ▶ Native American shell middens support this habitat type
- ▶ Threatened by potential residential and commercial development, sand and shell mining, and invasive plants and animals

Coastal Live Oak-Hackberry Forest



Photo Credit: Aidan Campos

Sugarberry (Hackberry) FACW
Celtis laevigata
Deciduous; February - May



Photo Credit: Larry Allain

Green Ash FACW
Fraxinus pennsylvanica
Deciduous; February - June



Photo Credit: Gary P. Fleming

Hairy Gromwell (shelly substrate) NI
Lithospermum parviflorum
May - June



Photo Credit: Alan Cressler

Texas Prickly Pear (deep sand) NI
Opuntia lindheimeri



Photo Credit: Larry Allain

Live Oak FACU
Quercus virginiana
Tardily Deciduous



Photo Credit: Larry Allain

Dwarf Palmetto FACW
Sabal minor
May - November



Photo Credit: LDWF

Heartleaf Skullcap FACU
Scutellaria ovata
April - September

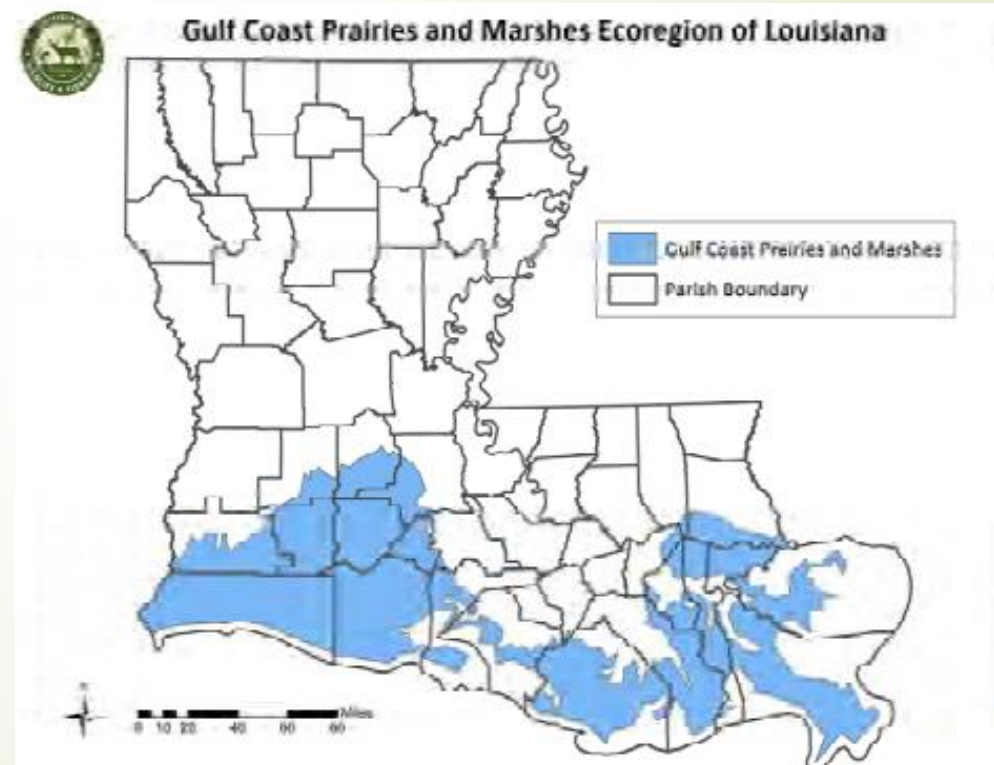


Photo Credit: Bruce A. Squire

Saw Palmetto* FACU
Serenoa repens
May - July; October - November

Gulf Coast Prairies and Marshes

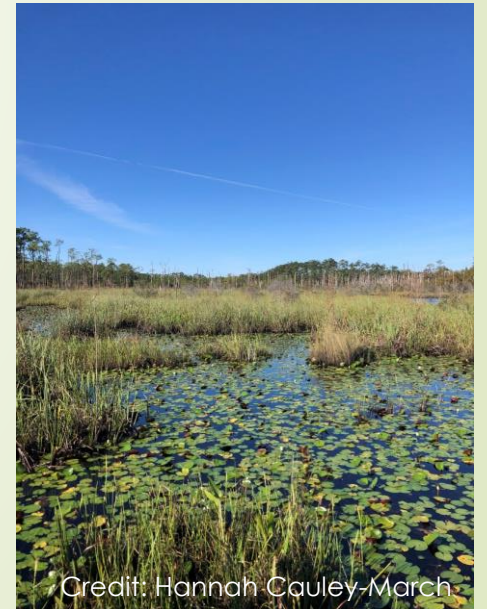
- Region relatively flat
- Once a series of naturally treeless area, broken by gallery forests along forested streambanks
- Fire dependent



Credit: LDWF, Wildlife Action Plan

Freshwater Marsh

- Located adjacent to Intermediate Marsh along the northern most extent of coastal marshes
- May occur beside coastal bays where freshwater enters
- Greatest plant diversity and highest soil organic matter content of any marsh type
- Salinity usually less than 2 ppt and average about 0.5-1 ppt
- Wildlife populations highest in Freshwater Marsh



Credit: Hannah Cauley-March

Freshwater Marsh



Photo Credit: Jay Horn

Maidencane OBL
Panicum hemitomon
April - October



Photo Credit: Larry Allain

Bull Tongue OBL
Sagittaria lancifolia
June - August



Photo Credit: Bruce A. Sorrie

Gulf Coast Spike Sedge OBL
Eleocharis cellulosa
May - December



Photo Credit: Gary P. Fleming

Square-Stem Spike Sedge OBL
Eleocharis quadrangulata
May - November



Photo Credit: Larry Allain

Arrow Arum OBL
Peltandra virginica
April - June



Photo Credit: Bruce A. Sorrie

Southern Cut Grass OBL
Leersia hexandra
May - October



Photo Credit: Larry Allain

Broadleaf Cattail OBL
Typha latifolia
March - November



Photo Credit: Matt Bradley

Southern Wildrice OBL
Zizaniopsis miliacea
April - October

Intermediate Marsh



Credit: LDWF

- Marsh fresh most of the time, but is occasionally affected by saltwater inputs
- Typically occurs between Brackish Marsh and Freshwater Marsh
- Irregular tidal regime and is oligohaline (salinity of 3-10 ppt)
- Small pools or ponds scattered throughout
- Characterized by a diversity of species, many of which are found in Freshwater Marsh and some found in Brackish Marsh
- Important to many bird species and wintering waterfowl

Intermediate Marsh



Photo Credit: Gary P. Fleming

Walking Spike Sedge OBL
Eleocharis rostellata
July - September



Photo Credit: Jay Horn

Southern Cattail OBL
Typha domingensis
March - August



Photo Credit: Gary P. Fleming

Marshhay Cord Grass FACW
Spartina patens
May - November



Photo Credit: Gary P. Fleming

Hog Cane OBL
Spartina cynosuroides
June - October



Photo Credit: Larry Allain

California Bulrush OBL
Schoenoplectus californicus
July - October



Photo Credit: Bruce A. Sarrie

Leafy Three Square OBL
Schoenoplectus americanus
April - August



Photo Credit: Larry Allain

Fragrant Flatsedge FACW
Cyperus odoratus
January - December



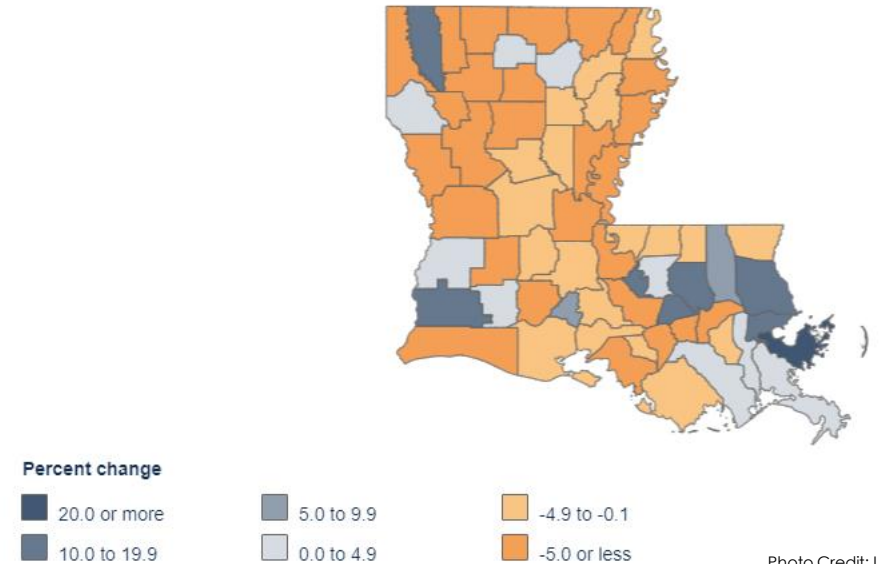
Photo Credit: Aidan Campos

Coastal Water Hyssop OBL
Bacopa monnieri
April - November

Why is this important?

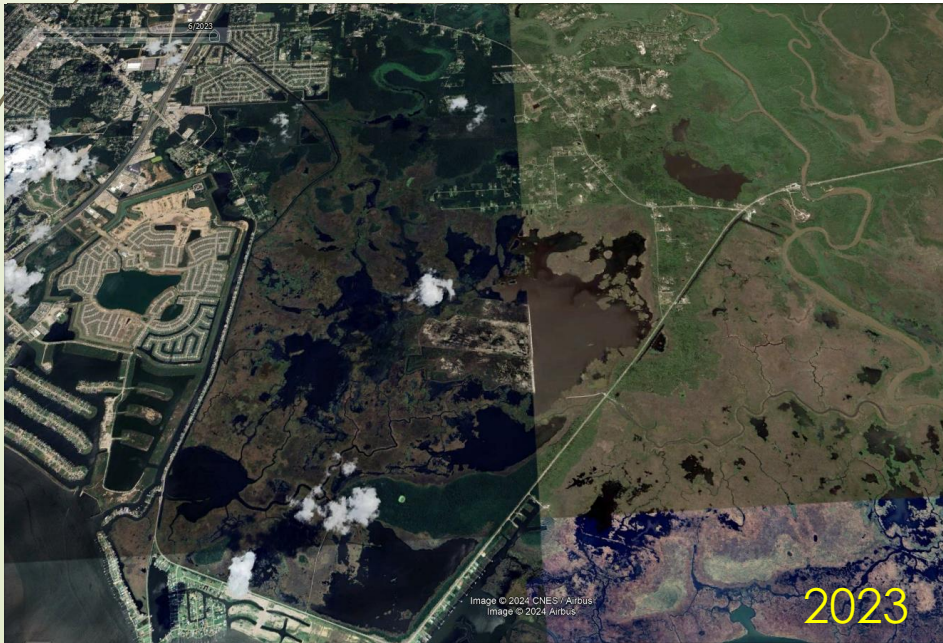
- Population increase
 - Louisiana (USCB)
 - 2010 Population: **4,533,372**
 - 2020 Population: **4,657,757**
 - **2.74% Increase**
 - St. Tammany Parish (USCB)
 - 2010 Population: **233,740**
 - 2020 Population: **264,570**
 - **13.2% Increase**

Percent Change in Population for Louisiana Counties: 2010–2020



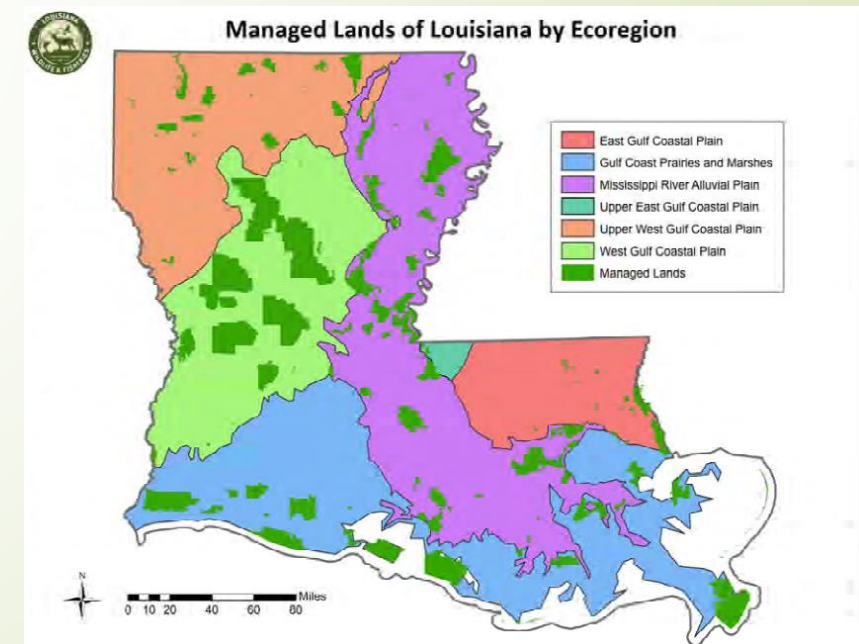
Why is this important? Cont.

- Increase in population and development results in:
 - Habitat fragmentation
 - Habitat degradation
 - Habitat loss



Why is this important? Cont.

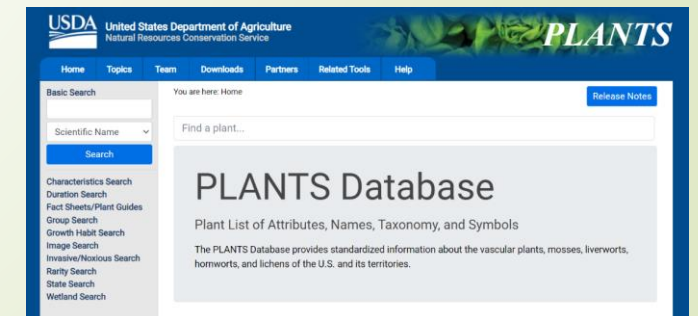
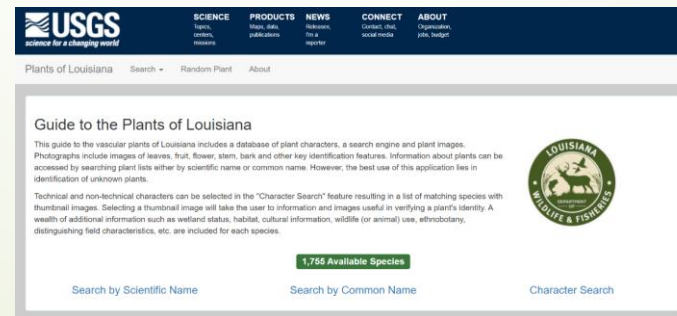
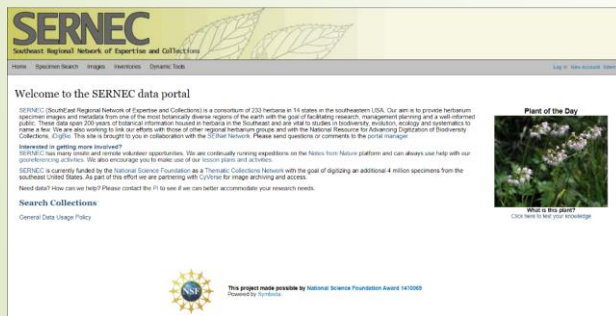
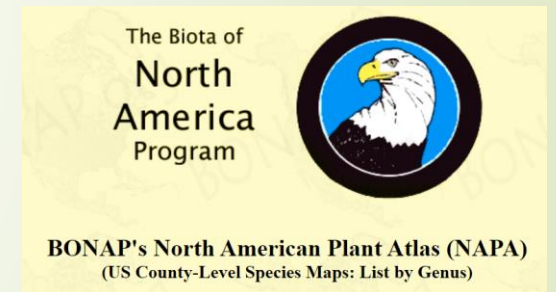
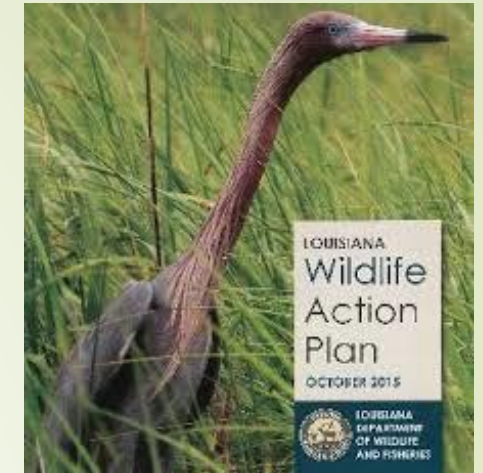
- Land Breakdown
 - 7% federally or state owned
 - 93% privately owned
- Private landowners are vital for conservation



Credit: LDWF, Wildlife Action Plan

Resources

- USGS Plants of Louisiana
 - <https://warcapps.usgs.gov/PlantID/>
- SERNEC
 - <https://sernecportal.org/portal/index.php>
- LDWF Wildlife Action Plan
 - https://www.wlf.louisiana.gov/assets/Resources/Publications/Wildlife_Action_Plans/Wildlife_Action_Plan_2015.pdf
- USDA Plants
 - <https://plants.usda.gov/home>
- The Biota of North America Program (BONAP)
 - <https://bonap.net/NAPA/Genus/Traditional/County>



Questions?

Email: Hcauley-March@wlf.la.gov

